StarTrack Environmental Performance Reporting
GAF Materials Corporation – Millis Plant

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Facility Profile

An overview of the reporting entity to provide a context for understanding and evaluating information in subsequent sections.

1.1. Name of Company; name and location of facility:
GAF Materials Corporation – Millis Plant
Millis, MA

1.2. Contact Person:
David Horton, Plant Manager
60 Curve St.
Millis, MA 02054
Phone: 508-376-2661
Fax: 508-376-8228

1.3 Major products/services of facility: **Asphalt shingle manufacture and distribution**

1.4 Facility information:
Number of employees: **125**
Indicator(s) of production scale for use in normalizing (e.g., product mass/amount/quantity)
Tons of finished product produced

1.5 Reporting period (e.g., fiscal/calendar year) for information provided (unless otherwise noted).
Calendar year 1998

1.6 Date of most recent previous report, if any.
N/A

1.7 Significant changes in facility size, products/services, that have occurred in the reporting period.
None

Policies, Organization & Management Systems

A statement of public commitment to the elements of responsible environmental management and how you have implemented organizational structures and management processes intended to fulfill that commitment.

2.1 Overview of environmental policy and of management programs in place to achieve the objectives of this policy, such as: employee orientation and awareness programs, environmental risk assessment, environmental accounting, performance evaluation, internal communications, linkages between management performance and compensation.

The GAF Millis plant is committed to running its operation in a manner which is protective of human health and the environment. To this end GAF Millis has developed an Environmental Health and Safety (EH&S) Policy (see below) and is establishing objectives to focus its management efforts and evaluate its performance. In order to

formalize it's environmental policies and efforts, the plant is implementing an Environmental Management System (EMS). The facility may seek ISO 14001 certification based on business considerations. In support of the EH&S policy, the EMS includes written policies and procedures as well as an overall employee awareness and training program.

GAF MATERIALS CORPORATION
MILLIS, MASSACHUSETTS FACILITY

ENVIRONMENTAL POLICY

It is the policy of GAF Materials Corporation, Millis Facility, to manufacture and distribute quality roofing materials in a manner that is protective of the environment and the health and safety of our employees, customers and community. To this end, we, the Management of GAF Materials Corporation and the Millis Facility, hereby state our commitment that we shall:

1. **Establish and maintain an Environmental Management System to implement this policy;**

2. **Be a responsible citizen of our community by reducing pollution and managing the environmental aspects of our manufacturing, products and services in a conscientious manner;**

3. **Meet or exceed all applicable governmental requirements and all of our environmental targets and objectives;**

4. **Regularly review and update these targets, objectives and requirements, consistent with this Environmental Policy and considering all significant environmental aspects of our activities, our technological options and our business requirements, and the views of interested parties;**

5. **Continually improve our environmental performance by regularly auditing and reviewing this Environmental Policy, our Environmental Management System, and our environmental compliance, and by promptly addressing any issues that we may find;**

6. **Institute regular training programs to ensure that our employees and management learn, implement and understand the importance of this Environmental Policy and our Environmental Management System; and**

7. **Make this Environmental Policy available to our community and the public.**

2.2 Organizational structure and responsibilities (e.g., senior management, special staff, operating staff) for oversight and implementation of environmental policies.

The Millis Plant has established a defined organizational structure and communicated roles and responsibilities for effective environmental management to appropriate personnel. Millis plant management has secured sufficient resources for the

implementation and maintenance of the EMS. These resources include both human and financial resources and specialized skills, technology and financial resources.

The overall responsibility for the plant's environmental performance rests with the Plant Manager. He is responsible for securing and assigning the proper resources to support the EMS. The Plant Manager has designated an Environmental Coordinator who has responsibility for establishing, implementing and maintaining the EMS. The Environmental Coordinator is also tasked with maintaining regulatory compliance at the plant. The Plant Manager and the Environmental Coordinator have identified environmental aspects relating to plant operations and have established procedures for addressing them. Environmental management objectives are defined and communicated to managers and supervisors, and their performance evaluated in part on achievement of such objectives.

Employees at all levels are made aware of the environmental aspects of their duties. The orientation promotes proper environmental stewardship and identifies the established procedures relating to those aspects which the employee is expected to follow.

2.3 Management systems for company-specific environmental issues, such as supplier and supply chain, outsourcing, and new product development.

The plant's purchasing department evaluates and selects suppliers on a variety of criteria including environmental issues.

New product development is not a function of the Millis Plant.

2.4 Status and date of any external environmental certification (e.g., ISO 14001).

The plant is in the process of implementing an EMS that conforms to the basic elements of ISO 14001.

Community Relationships

Information on the process and methods by which the facility interacts with its community.

3.1 Policies/procedures for considering community impacts in decision-making.

The Millis plant strives to be a responsible neighbor. Plant management is cognizant of local concerns and evalulates business decisions with respect to those concerns. Plant management has implemented programs designed to reduce noise, eliminate odors, and effectively manage plant-related traffic.

3.2 Coordination with local emergency responders (e.g., training, communication regarding risks associated with operations and / or regarding chemicals used).

The Millis plant coordinates semi-annual visits with the Millis Volunteer Fire Department. These visits include tour of the facility, review of fire prevention equipment, and review of fire department response procedures.

3.3 Communication with facility neighbors regarding procedures and evacuation plans that may be needed in case of an incident.

Communication of evacuation plans is handled through the Millis Volunteer Fire Department. The Millis plant does not have quantities of any chemicals that would require a formal evacuation notification.

Management Performance

Indicators of performance regarding compliance with applicable mandatory standards, and adherence to internal policies and standards.

4.1 Summarize results of StarTrack compliance audit, using the following categories:

Violations resulting in serious actual harm to public health or the environment, including violations resulting in significant economic benefit, imminent and substantial endangerment to health and the environment, criminal violations, and violations of administrative or consent orders.
NONE

Formal enforcement actions: Notices of Violation (NOV's) and Notices of Non-Compliance (NON's) issued by states, administrative orders, etc.
NONE

Regulatory program implementation violations such as deficiencies regarding instrument calibration, sampling protocols, container management, etc.
The 3rd party audit identified 3 issues pertaining to the labeling of waste containers. These issues have been addressed.

Record keeping and reporting violations such as deficiencies with monitoring reports, waste manifests, contingency plans, etc.

The 3rd party audit identified several record keeping and compliance plan implementation deficiencies. All deficiencies have been corrected.

4.2 Summary of any management system deficiencies identified by the StarTrack EMS audit.
The EMS is in its development stage. The 3rd party audit will be used as an aid in focusing efforts for the completion of the plant's EMS.

4.3 Summary of any corrective action subsequent to the StarTrack audits.
All items identified in the compliance audit were corrected.

4.4 Number, volume, and nature of unauthorized releases to land, air, and water, including: (1) accidental or episodic releases (e.g., chemical spills, oil spills) and (2) exceedances of permits or licenses.

One accidental spill occurred in 1998. In September a raw materials delivery truck broke a hydraulic line spilling less than 10 gallons of hydraulic oil. The spill was reported to the Massachusetts DEP, the Millis Volunteer Fire Department and the Millis Boards of Health and Selectman. The spill was cleaned up and closed under the direction of a Licensed Site Professional (LSP) in accordance with applicable legal requirements.

4.5 On-site remediation activities including nature and cost, if available.

A leak in an underground fuel line was discovered in 1990. The leak was repaired and GAF performed an extensive investigation in accordance with The Massachusetts Contengency Plan under the direction of a LSP. The investigation determined that the fuel oil had not migrated past plant boundaries. The federal Agency for Toxic Substances and Disease Registry reviewed the results of the investigation and other environmental data from the facility, and determined that the facility posed no apparent health hazard. GAF subsequently gained approval from the DEP to implement a remedial program to recover the fuel oil. The recovery system went online in 1997.

To date, GAF has spent $1,100,000 on this effort.

Operational Performance

Indicators of operational performance regarding key aspects of environmental performance.

Inputs

5.1 Electricity use (kWh)

Purchased (describe fuel source): **All electricity for the Millis plant is purchased from Boston Edison**

		1996		1997		1998	
	Normalization Factor (tons of finished material produced)	*244,103*	*Tons produced /unit of energy*	*206,444*	*Tons produced /unit of energy*	*220,774*	*Tons produced /unit of energy*
	Input	Absolute	Normalized	Absolute	Normalized	Absolute	Normalized
5.1	Electricity (kWh)	5,033,376	.05	4,637,356	.04	5,410,531	.04
5.2	#2 Fuel Oil (MMBTU)	77,911	3.13	53,148	3.88	2578	85.64
	Natural Gas (MMBTU)	158,915	1.54	122,041	1.69	101,807	2.17
	Propane (MMBTU)	1,105,144	.22	1,182,856	.17	846,289	.26
5.4	Water (gallons)	29,302,000	.008	7,175,000	.03	5,504,000	.04

In December of 1996 a water recirculation system was installed to recycle the process water used in the cooling section of the manufacturing process. This recycling effort resulted in a first year 75% reduction in water usage at the plant. Continued efficiency efforts in 1998 resulting in a 23% reduction in water use over 1997 despite a 7% increase in production. The two-year drop in water usage totaled 81%.

5.3 Total Energy Use

1996 1,341,970.001475 MMBTU
1997 1,358,045.001359 MMBTU
1998 950,674.001586 MMBTU

	1996		1997		1998	
Normalization Factor (tons of finished material produced)	244,103	*Tons produced/ MMBTU*	*206,444*	*Tons produced/ MMBTU*	*220,774*	*Tons produced/ MMBTU*
	Absolute	Normalized	Absolute	Normalized	Absolute	Normalized
Total (MMBTU)	1,341,970	.18	1,358,045	.15	950,674	.23

Outputs

5.5

	1997		1998	
Normalization Factor (tons of finished material produced)	*206,444*	*pounds emitted/ tons produced*	*220,774*	*pounds emitted/ tons produced*
Emission (pounds)	Absolute	Normalized	Absolute	Normalized
CO	4600	0.02	6000	0.03
VOC	49,400	0.24	53,000	0.24
NO_2	14,200	0.07	20,000	0.09
PM 10	28,200	0.14	31,800	0.14
SO_2	400	0.002	200	0.001

5.6 Summary of any noise or odor complaints.

The Town of Millis Board of Health receives neighbor complaints regarding noise and odor. In 1997 there were 4 complaints and in 1998 there was 1 complaint.

5.7 Emissions of greenhouse gases: CO_2, methane, N_2O, halo-carbons, other (pounds).

All chemicals or gases requiring reporting under applicable statutes are reported in the above table.

5.8 Emission of ozone-depleting chemicals (pounds).

GAF Millis plant does not use or create any ozone depleting chemicals

5.9 Chemical release data, including data reportable under all applicable statutes.

All chemicals or gases requiring reporting under applicable statutes are reported in the above table.

5.10 Emissions information on chemicals your company/facility has determined to be significant and a focus for reductions programs.

At this time the Millis plant has not targeted any chemicals for reduction

5.11 Hazardous waste generated and management type (e.g., incinerated with energy recovery, landfilled, deep well injected).

In the course of the normal manufacturing process, the Millis plant generates oily waste. This oily waste comes from normal machine lubrication and is in the form of liquid, solid, or oil/ water mixture. This material is removed by an outside service in accordance with all D.O.T. and environmental regulations. In addition to this quantity, Millis plant is conducting an active clean-up of an old oil spill (see 4.5). The data below of liquid oily waste removed include both of these sources.

	1997		1998	
Normalization Factor (tons of finished material produced)	*206,444*	*Units generated / tons produced*	*220,774*	*Units generated / tons produced*
Hazardous Waste	Absolute	Normalized	Absolute	Normalized
Liquid Oily Waste (gallons)	8892	.04	12,238	.06
Solid Oily Waste (pounds)	55,160	.27	39,000	.18
Parts Cleaning Solvent (gallons)	185	.0009	215	.0010

In 1997 35,000 pounds of solid oily waste was disposed of due to an off-site spill of and asphalt truck.

5.12 Non-hazardous waste generated and management type (e.g., incinerated with energy recovery, landfilled).

All non-hazardous waste generated is disposed in an off-site permitted landfill.

	1996		1997		1998	
Normalization Factor (tons of finished material produced)	244,103	*Tons of waste generated/ tons produced*	*206,444*	*Tons of waste generated/ tons produced*	*220,774*	*Tons of waste generated/ tons produced*
Non-Hazardous Waste	Absolute	Normalized	Absolute	Normalized	Absolute	Normalized
Solid waste (tons)	8864	0.036	7145	0.034	6848	0.031

5.13 Discharges to water, by type (pounds)

Chemical oxygen demand (COD)
Biological oxygen demand (BOD)
Priority heavy metals
Persistent organic pollutants (POP)

The Millis plant has 2 separate water discharges. Non-process wastewater is discharged through the Town of Millis sewer system. The second discharge encompasses process water waste and stormwater run-off. This discharge is managed by an on site water retention basin. The Millis plant does not measure the four constituents listed above, because their measurement is not required by applicable regulations.

Product Performance

Indicators of the environmental performance of the facility's product(s).

6.1 Major post-production environmental impacts associated with the life cycle of products and services.

The roofing products manufactured at the Millis plant have a serviceable life of several decades. The major impact associated with the life cycle of these products is their ultimate disposal.

6.2 Programs or procedures to prevent or minimize potentially adverse post-production impacts of products and services, including life cycle analysis, product stewardship initiatives, and design for the environment.

The ultimate disposal of used roofing materials is an issue that is being addressed at an industry wide level. The Asphalt Roofing Manufacturing Association is actively researching effective methods for recycling used roofing materials.